

Notice of Allowability**Application No.**

10/784,594

Examiner

Yonel Beaulieu

Applicant(s)

OCKERSE ET AL.

Art Unit

3661

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to arguments presented on 1 June 2006.
2. ☒ The allowed claim(s) is/are 1-17 and 50-53.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |



Allowable Subject Matter

Claims 18 – 49 and 54 – 106 having been canceled, remaining claims 1 – 17 and 50 – 53 are allowed.

The prior art of record fail to teach an electronic compass system for a vehicle comprising, among other limitations, utilizing a pitch and roll sensing circuit that is separate from the magnetic sensor circuit such that a processing circuit may then compensate the values sensed by the magnetic sensor circuit based upon the measured pitch and roll as measured by the pitch and roll sensing circuit. Clearly, because Clymer et al. utilizes the magnetic sensor circuit for sensing pitch and roll itself, it cannot then compensate the values sensed by the magnetic sensor circuits based upon the pitch and roll that has been sensed. Moreover, said magnetic sensor circuit includes at least two magnetic field sensing elements each having an axis of sensitivity wherein at least one of the magnetic field sensing elements is positioned such that its axis of sensitivity is oriented in one of the following two orientations; (a) non-perpendicular and non-parallel to the plane of the circuit board, and (b) non-perpendicular to the axis of sensitivity of another one of said at least two magnetic field sensing elements.

Furthermore, the art of record fail to teach an electronic compass system for a vehicle comprising a processor circuit coupled to a magnetic sensor circuit for computing a heading of the vehicle if there is not too much noise present in the output

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signals generated by the magnetic sensor as a function of some sensed components and generating a heading signal if too much noise is present in the output signals; the processor further performing a coordinate transform to account for the positioning of at least one of a plurality of field sensing elements such that the axis of sensitivity is oriented in one of two non-perpendicular orientations.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yonel Beaulieu whose telephone number is (571) 272-6955. The examiner can normally be reached on Mon., Wed. & Thur. between 0900 and 1600.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Yonel Beaulieu
Primary Examiner
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